ISSI Consulting Group

999 18th Street, Suite 1450

Denver, CO 80202

ph 303.292.4142 • fax 303.292.4926



U.S. SBA 8(a) certified postmaster@issilinc.com www.issilinc.com

MEMORANDUM

To: Mary Goldade

From: Bill Brattin/Tracy Hammon

Date: 7/28/00

Subj: Libby Exposure Monitoring Data

Cc: Paul Peronard

Mary:

In accord with your request, we have prepared a report which summarizes the objectives and procedures for the exposure monitoring project at the Export and Screening Plants in Libby, Montana. Additionally, this report contains copies of analytical results for this project received by ISSI Consulting Group, Inc. as of July 28, 2000.

The objective of the exposure monitoring sampling program is two-fold. The first is to collect samples of air that reflect the concentrations of asbestos in air of the breathing zone of people who may have been exposed in the recent past (i.e., after the time that W.R. Grace sold the property) while engaged in activities such as sweeping, moving materials, and other common activities. To mimic these exposure scenarios, field team members performed cleaning and other activities that approximate work performed at the sites in recent years past, while wearing personal air monitoring equipment. Team members wore personal protective equipment (Level C) during sample collection. Second, a series of ambient air samples were collected from fixed air monitors at several location at the site in order to address the general level of exposure in these locations. Further details pertaining to the sample collection are provided below.

Exposure Monitoring – Export Plant Personal and Ambient Air Sampling Conducted on June 25, 2000

Introduction

PES conducted personal breathing zone and ambient air monitoring while MARCOR employees performed routine tasks at the Lumber Yard (Former Export Facility). The air monitoring was performed by PES Industrial Hygienist, Mr. Brian Stewart on June 25-26, 2000. The sampling was conducted while two MARCOR employees performed routine tasks in two separate areas of the Lumberyard.

One employee performed general housecleaning tasks in the break room of the Planer Building. The general housekeeping tasks consisted of dry sweeping, vacuuming, and dusting. The employee conducted the tasks for approximately two hours. The second employee moved bags of insulation and dry swept the floors in the Baghouse Building. This employee also worked for approximately two hours. No dust suppression was performed. Also, the doors to the buildings were kept closed during the activities allowing for minimal ventilation.

PES collected duplicate samples for W.R. Grace at each sampling location, including the personal samples.

Personal Air Monitoring

PES placed two SKC® personal air-monitoring pumps on each employee. (One pump was used to collect the replicate air sample for W.R. Grace.) These pumps operated at a flow rate of approximately 2.0 liters per minute (I/min) for the duration of the tasks. As stated earlier, both tasks had a duration of approximately two hours. Three-piece, 25-millimeter diameter cassettes, with an open-faced 50-millimeter electrically conductive extension cowl were used as sampling media. Each cassette was loaded with a mixed cellulose ester filter having a pore size less than or equal to 0.45 μ m. The filter was backed by a 5- μ m pore size mixed cellulose ester backup filter and supported by a cellulose support pad.

The air sampling pumps were calibrated, with sampling media in-line, prior to the beginning of the sampling period and again at the end of the sampling period. Where a difference between the pre-test and post-test calibrations are identified, PES used the average flow rate to calculate the volume of air collected.

Ambient Air Monitoring

PES collected one ambient air sample inside the break room of the Planer Building and one inside of the Baghouse Building during the performance of the tasks. While the sampler was placed on the floor, the air filters were elevated into the breathing zone. PES utilized high volume sampling pumps to collect the ambient samples. Two high volume pumps were set up at each location. (One pump was used to collect the replicate air sample for W.R. Grace.) The high volume sampling pumps operated at a flow rate of approximately 10.0 liters per minute (I/min) for the duration of the tasks. Three-piece, 25-millimeter diameter cassettes, with an open-faced 50-millimeter electrically conductive extension cowl were used as sampling media. Each cassette was loaded with a mixed cellulose ester filter having a pore size less than or equal to 0.45 μ m. The filter was backed by a 5- μ m pore size mixed cellulose ester backup filter and supported by a cellulose support pad.

The air sampling pumps were calibrated, with sampling media in-line, prior to the beginning of the sampling period and again at the end of the sampling period. Where a difference between the pre-test and post-test calibrations are identified, PES used the average flow rate to calculate the volume of air collected.

Final Clearance Air Monitoring

Several hours after the tasks had been completed, PES collected one final clearance air sample inside the break room of the Planer Building and one inside of the Baghouse Building. PES utilized high volume sampling pumps to collect the final clearance samples. Two high volume pumps were set up at each location. (One pump was used to collect the duplicate air sample for W.R. Grace.) The high volume sampling pumps operated at a flow rate of approximately 10.0 liters per minute (l/min) for 120 minutes. Three-piece, 25-millimeter diameter cassettes, with an open-faced 50-millimeter electrically conductive extension cowl were used as sampling media. Each cassette was loaded with a mixed cellulose ester filter having a pore size less than or equal to 0.45 μm . The filter was backed by a 5- μm pore size mixed cellulose ester backup filter and supported by a cellulose support pad.

The air sampling pumps were calibrated, with sampling media in-line, prior to the beginning of the sampling period and again at the end of the sampling period. Where a difference between the pre-test and post-test calibrations are identified, PES used the average flow rate to calculate the volume of air collected.

Sample IDs for Exposure Monitoring Sampling - Export Plant

Collection Method	Sample Date	Sample ID	Location Description
Ambient	6/25/00	1-01642	Planer Breakroom
		1-01643	Dup. Planer Breakroom
		1-01644	Baghouse
		1-01645	Dup. Baghouse
		1-01646	Blank
		1-01647	Blank
		1-01648	Blank
		1-01649	Blank
Personal Air Monitors	6/25/00		Breakroom-Sweeping
		1R-00040	Dup. Breakroom-Sweeping
		1R-00041	Blank
•		1R-00042	Baghouse
	j	1R-00043	Dup. Baghouse
		1R-00044	Blank
		1R-00045	Blank
		1R-00046	Blank
Clearance	6/26/00	1-01650	Planer Breakroom
		1-01651	Dup. Planer Breakroom
		1-01652	Baghouse
		1-01653	Dup. Baghouse
		1-01654	Blank
		1-01655	Blank
		1-01656	Blank
		1-01657	Blank

Exposure Monitoring –Screening Plant Personal And Ambient Air Sampling Conducted on July 21 and 22, 2000.

Introduction

PES conducted personal breathing zone and ambient air monitoring while MARCOR employees performed routine tasks at the RainTree Nursery (Former Screening Plant Facility). The air monitoring was performed by PES Industrial Hygienist, Mr. Gregory Parana on July 21-22, 2000. The sampling was conducted while three MARCOR employees performed routine tasks in three separate areas of the nursery.

On July 21, 2000, one employee performed work in the northwest greenhouse. The task consisted of lifting styrofoam planting boxes and placed them on a wooden pallet and was conducted for approximately two hours. No dust suppression was performed. The northwest greenhouse is a partially open structure, therefore ventilation control was not possible.

On July 22, 2000, one employee performed general housecleaning tasks in the long shed. The general housekeeping tasks consisted of dry sweeping the floor surface. The employee conducted the task for approximately two hours. No dust suppression was performed. The long shed's north wall along with large bay doors on the East Side are open to the outside, therefore ventilation control was not possible.

On July 22, 2000, one employee bagged sacks of mushrooms and soil in the mushroom tunnels. The employee also dry swept the debris on the floor surface inside the tunnel. The employee conducted the task for approximately two hours. No dust suppression was performed. However, the door at the entrance to the tunnel was closed during this task to control air ventilation.

PES collected duplicate samples for W.R. Grace at each sampling location, including the personal samples.

Personal Air Monitoring

PES placed two SKC® personal air-monitoring pumps on each employee. (One pump was used to collect the replicate air sample for W.R. Grace.) These pumps operated at a flow rate of approximately 2.0 liters per minute (I/min) for the duration of the tasks. As stated earlier, all tasks had a duration of approximately two hours. Three-piece, 25-millimeter diameter cassettes, with an open-faced 50-millimeter electrically conductive extension cowl were used as sampling media. Each cassette was loaded with a mixed cellulose ester filter having a pore size less than or equal to 0.45 μm . The filter was backed by a 5- μm pore size mixed cellulose ester backup filter and supported by a cellulose support pad.

The air sampling pumps were calibrated, with sampling media in-line, prior to the beginning of the sampling period and again at the end of the sampling period. Where a difference between the pre-test and post-test calibrations are identified, PES uses the lower flow rate to calculate the volume of air collected.

Ambient Air Monitoring

PES collected one ambient air sample approximately 30 feet from the northwest green house of the nursery, one ambient air sample inside the long shed and one ambient air sample inside the mushroom tunnels during the performance of the tasks. While the sampler was placed on the floor, the air filters were elevated into the breathing zone. PES utilized high volume sampling pumps to collect the ambient samples. Two high volume pumps were set up at each location. (One pump was used to collect the replicate air sample for W.R. Grace.) The high volume sampling pumps operated at a flow rate of approximately 8.5 liters per minute (I/min) for the duration of the tasks. Three-piece, 25-millimeter diameter cassettes, with an open-faced 50-millimeter electrically conductive extension cowl were used as sampling media. Each cassette was loaded with a mixed cellulose ester filter having a pore size less than or equal to $0.45~\mu m$. The filter was backed by a 5- μm pore size mixed cellulose ester backup filter and supported by a cellulose support pad.

The air sampling pumps were calibrated, with sampling media in-line, prior to the beginning of the sampling period and again at the end of the sampling period. Where a difference between the pre-test and post-test calibrations are identified, PES uses the lower flow rate to calculate the volume of air collected.

Sample IDs for Exposure Monitoring Sampling - Screening Plant

Туре	Sample ID	Location*	Pump Type	Sample Date
Ambient	1R-00344	Green House	High Vol	7/21/00
Ambient Dup	1R-00345	Green House	High Vol	7/21/00
Personal	1R-00358	Green House	Low Vol.	7/21/00
Personal Dup	1R-00359	Green House	Low Vol.	7/21/00
Blank	1R-00364			
Blank	1R-00365			
Ambient	1R-00375	Longshed	High Vol	7/22/00
Ambient Dup	1R-00376	Longshed	High Vol	7/22/00
Personal	1R-00379	Longshed	Low Vol.	7/22/00
Personal Dup	1R-00382	Longshed	Low Vol.	7/22/00
Ambient	1R-00377	Tunnels	High Vol	7/22/00
Ambient Dup	1R-00378	Tunnels	High Vol	7/22/00
Personal	1R-00391	Tunnels	Low Vol.	7/22/00
Personal Dup	1R-00392	Tunnels	Low Vol.	7/22/00
Blank	1R-00383			
Blank	1R-00384			

* Activities Conducted at Each Location

Tunnels:

Bagging sacks of mushrooms and soil in tunnels and sweeping debris on floor.

Longshed:

Dry sweeping longshed floor.

Green House: Moving styrofoam at the west greenhouse.

ANALYTICAL RESULTS

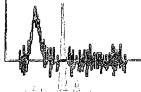
107 Haddon Avenue Westmont, New Jersey 08108

Phone: (856) 858-4800 Fax: (856) 858-1292



LETTER OF TRANSMITTAL

To:	Mary Goldade		Date:		July 21, 2000					
	US EPA		From:		J. De Malo					
	999 18th St., Suite 5000)	Re:	Libby, MT Analytical Reports						
	Denver, CO 80202		_							
			-							
We are se	nding you: × Att	ached	****	Under s	eparate cover via					
	Solicitation	□ Сору	of Letter		☐ Invoice #'s See Above					
	Subcontract	As no	oted		Other					
	Laboratory Samples		tical Repo	rts						
These are	transmitted as indicated	d below:								
	ExecuteOrginal(s)	Revie	ew & Con	nment	☐ For Approval					
	ReturnOrginal(s)	As R	equested		Respond as instructed					
	For Your Information/File				Other					
Remarks:		· · · · · · · · · · · · · · · · · · ·								
Enclosed p	lease find the analytical r	eports for t	he follow	ing samp	le numbers that you requested:					
1-01642, 1-	-01644, 1-01646, 1-0164	7 (E	MSL repo	ort #'s M	L0014 & ML0015)					
1R-00039,	1R-00041, 1R-00042, 1R	R-00044 (E	MSL repo	ort #'s M	L0012 & ML0013)					
1-01650, 1-	01652, 1-01654, 1-01655	5 (E	MSL repo	ort #'s M	L008 & ML009)					
Copy to:			Signed	: Ur	while					



1 Cooper Street Westmont, NJ 08108

Phone: (609) 858-4800

Fax: (609) 858-9551

Attn.: Tim Wall

CDM Federal Programs, Corp.

One Cambridge Place 50 Hampshire St. Cambridge, MA 02142 Tuesday, June 27, 2000

Ref Number:

ML0014

Analysis Date: 6/27/00

PHASE CONTRAST MICROSCOPY (PCM) FIBER COUNT BY NIOSH METHOD 7400, ISSUE 2, 4TH EDITION, 8/15/94

Project: Ambient Air Samples

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	fibers/ mm²	LOD fib/cc	fibers/cc	
I-01642	Ambient Air Sample	6/25/00	1270.00	15.0	100	19.11	0.002	0.006	
I-01644	Ambient Air Sample	6/25/00	1310.00	Sample Was Overloaded					
I-01646	Ambient Air Sample	6/25/00	0.00	<5.5	100	<7.0			
I-01647	Ambient Air Sample	6/25/00	0.00	<5.5	100	<7.0			

BLANK ID: I-01646, I-01647

Adrian Arav

Analyst

Approved Signatory

Disclaimers: LOD = Limit of Detection. This method assumes the limit of detection is 7 fibers/mm². The laboratory is not responsible for data reported in fibersicc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL.

nalysis performed by EMSL Mobile Lab ()

Chain of Custody Record

U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 500 Denver, CO 80202-2413

ML0014 (7400) Send to:

Send to: EMSL

(On Site Laboritory)

Field Sample ID 1-01642	Sample Type Aimbient Air Sample	Sample Date 6/25/00	Volume (L) 1270.0	Turn Around Time 24 Hours	Analysis Request PCM 7400 followed by
1-01644	Aimbient Air Sample	6/25/00	1310.0	24 Hours	TEM 7402 PCM 7400 followed by
1-01646	Blank	6/25/00	NA	24 Hours	TEM 7402 PCM 7400 followed by
1-01647	Blank	6/25/00	NA	24 Hours	TEM 7402 PCM 7400 followed by TEM 7402

Samples 1-01643 and 1-01645 were duplicates collected for Grace. Therefore, they are not included with this submittal.

END OF SUBMITTAL

Relinquished by (Signature and Company):

Date/Time

Received by (Signature and Company):

Sample Condition upon Receipt:

Te said

बिर्माक क्रिक

Received by (Signature and Company):

EMSL 6/27/00 0900

Sample Condition upon Receipt:

Relinquished by (Signature and Company):

Date/Time

PCM Fiber Count - NIOSH Method 7400, Issue 2, 4th Edition, 8/15/94

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	CDM Federal Programs, Corp.	Dat	Logg e/Time [ged: 6		TAT: 0 AM	1 Day		
Phone: (One Cambridge Place 50 Hampshire St. Cambridge, MA 02142 (617) 452 - 6257 (617) 452 - 8257					Handling	Billing Number ML0014		
	Ambient Air Samples							<u> </u>	
Sample	D Location	Sample Date	# Fibers	# Fields	Volume (L)	Fibers/mm² = E	Fibers/CC = C	Overloaded	
I-01642	Ambient Air Sample	6/25/00	15	100	1270				
I-01644	Ambient Air Sample	6/25/00		0	1310			/	
J-01646	Ambient Air Sample	6/25/00	0	100	0				
I-01647	Ambient Air Sample	6/25/00	0	160	. 0				
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	·								
QC Checks	1-01642				s	cope	1		

Phone: (856)-858-4800

Fax: (856)-858-1292



NVLAP#200481-0

Client:

CDM Federal Programs, Corp.

EMSL Project ID: ML0015

One Cambridge Place
50 Hampshire Street

Date Received: 27-Jun-00

Cambridge, MA 02142

Date Analyzed: 07-Jul-00

Client Project ID: Ambient Air Sample

Report Date: 07-Jul-00

Page: 1

Summary of Analytical Results

Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH 7402

Client	Asbestos	Asbestos	Non Asbestos	Total	Asbestos	Original (PCM)	7402 Adjusted**
Sample ID	Fibers	Type(s)	Fibers	Fibers	% of Total	Conc. (f/cc)	Concentration (f/cc)
1-01642	11.0	Tremo/Actino	3.0	14.0	79	0.006	0.005
1-01644	N/A	N/A	N/A	N/A	N/A	Over Loaded	Over Loaded

Average Number of Asbestos Fibers on Field Blanks =

N/A

Average Number of Non-Asbestos Fibers on Field Blanks =

N/A

This method requires 2 field blank analyses per set. If none are submitted then the values reported are not blank corrected.

This method reports only fibers greater than or equal to 5 microns in length and 0.25 microns in width.

In the absence of PCM data the information is based on the TEM analysis only.

Method Detection Limit- 1 confirmed asbestos fiber above 95% of expected mean blank value

**Actual reported concentrations do not incorporate the analytical sensitivity of the PCM analysis. In some cases, the 7402 adjusted results may be reported "<LOD" below the analytical sensitivity of PCM (Limit of Detection)

Approved Signatory

00

EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel.

Analysis performed by NIOSH 7402 issue 2 August 15, 1994

TEM make: Joel 100cxII Detector: PGT

EMSL7402rpt6.00

Chain of Custody Record

U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 500 Denver, CO 80202-2413

MLO015 (7402)

Send to: EMSI

(On Site Laboritory)

Field Sample ID 1-01642	Sample Type Aimbient Air Sample	Sample Date 6/25/00	Volume (L) 1270,0	Turn Around Time 24 Hours	Analysis Request PCM 7400 followed by
1-01644	Aimbient Air Sample	6/25/00	1310.0	24 Hours	TEM 7402 PCM 7400 followed by
1-01646	Blank	6/25/00	NA	24 Hours	TEM 7402 PCM 7400 followed by
1-01647	Blank	6/25/00	NA	24 Hours	TEM 7402 PCM 7400 followed by TEM 7402

Samples 1-01643 and 1-01645 were duplicates collected for Grace. Therefore, they are not included with this submittal.

END OF SUBMITTAL

Relinquished by (Signature and Company):

Date/Time

Received by (Signature and Company):

Sample Condition upon Receipt:

Relinquished by (Signature and Company):

Date/Time

Received by (Signature and Company):

EMSL 6/27/00 chan

Sample Condition upon Receipt:

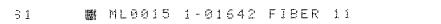
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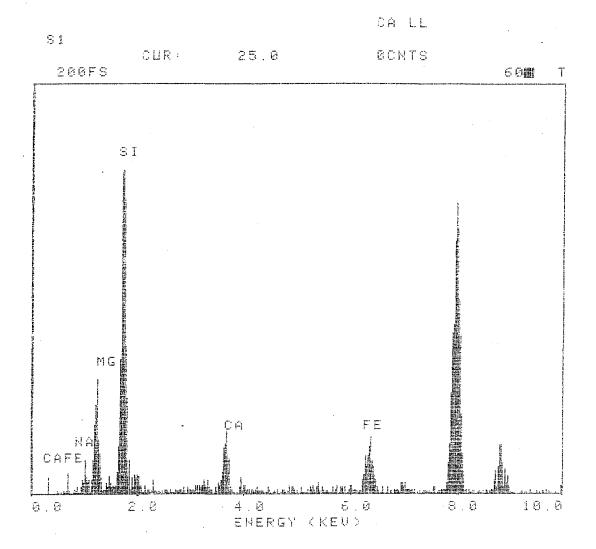
QC Check ____

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	50 I Car	e Cambridge Hampshire St nbridge, MA bient Air Sam	t. 02142			Sample ID: I-01642 Location: Ambient Air Sample					Results Due Tuesday, June 27, 2000 9:00 AM				
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Picture Spectrum SAED				(5) Fit	Filte				Grid Box #						
	Picture Types					Scope JewicxII Date 1/8/cm					jection:				

______ Data Entry _____ Date _







7/8/00 Ah A

Lab I	D: 812	24		Bil	ling Nu	mber			Logged: 27-Jun-00					
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Addres		e Cambridge			San	nple ID:	I-01644				<u></u>			
		Hampshire S				cation:		Air Sai	mple		Results Due			
	Cai	mbridge, MA	02142			•					Tuesday, June 27, 2000			
Proje	ct: An	nbient Air San	nples									9:00 A		
					Volta	ge (kv): 1	100							
						(liters): 1					Special I	landling	Instructi	ons
Filter S		25 mm												
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Asbe	stos Fib	ers Present		No	nasbesto	s Fibers	Present	С	alculation	ons Filter S	Size: 25 mm	1 }	EFA: 385	mm²
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	ctinolite	Tr	emolite		(3) Ce	llulose								
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	pectrum				(5) Fib	ers Cont	taining	G	rid Box	# m/c	00/ p.	ow _C	Column	3,21
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	cture Ty	/pes						1		son for rejecti		verbol		
Analyst		1	hot	Sn	ope <u>J</u> e	al (XII		ate .	7/8/	-				
QC Che					ta Entry			ate .						

	3: 81:	24 IM Federal P	rograms Co	\rm	Billing Number ML0015					Logged: 27-Jun-00 TAT: 1 Day				
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		Hampshire S				nple ID: in ple ID: in		Air Sar	nnlo			Results L	Due	
	Ca	mbridge, MA	02142		L.C	ocation. F	Amblem	Ali Sai	npie		Tueso	day, June	27. 200	0
Proje	ct: An	nbient Air San	nples									9:00 Al		
					Volta	ge (kv): 1	00							
Filter S	lize [.]	25 mm			Vol (liters): 1310					Special F	Special Handling Instructions			
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Pi	cture] (4) Or	ganic Fib	ers	Ì						
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Pi	cture T	ypes	/							on for rejecti	ection: over-ladd			
Analyst		18.49	Sp	Sc	ope Z	iel CXI		D a te .	7/8	1 CAL				

1 Cooper Street Westmont, NJ 08108

Phone: (609) 858-4800

Fax: (609) 858-9551



Attn.: Tim Wall

CDM Federal Programs, Corp.

One Cambridge Place 50 Hampshire St. Cambridge, MA 02142 Tuesday, June 27, 2000

Ref Number:

ML0012

Analysis Date: 6/27/00

PHASE CONTRAST MICROSCOPY (PCM) FIBER COUNT BY NIOSH METHOD 7400, ISSUE 2, 4TH EDITION, 8/15/94

Project: Personal Air Monitoring Samples

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	fibers/ mm²	LOD fib/cc	fibers/cc
IR-00039	Personal Air Monitoring Sample	6/25/00	417.00		Sar	nple Was Ov	rerioaded	
IR-00041	Blank	6/25/00	0.00	<5.5	100	<7.0		
IR-00042	Personal Air Monitoring Sample	6/25/00	393.00	79.0	100	100.64	0.007	0.099
IR-00044	Blank	6/25/00	0.00	<5.5	100	<7.0		

BLANK ID: IR-00041, IR-00044

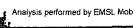
Adrian Arav

Analyst

Approved Signatory

Disclaimers: LOD = Limit of Detection. This method assumes the limit of detection is 7 fibers/mm². The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL.

Analysis performed by EMSL Mobile Lab ()



PCM Fiber Count - NIOSH Method 7400, Issue 2, 4th Edition, 8/15/94

Client:	CDM Federal Programs, Corp.	Logged:	6/27/00		TAT:	1 Day
Address:	One Cambridge Place	Date/Time Due:	6 <i>[</i> 27/00	9:00 AM		
	50 Hampshire St.		· · · · · · · · · · · · · · · · · · ·			Dill: N
	Cambridge, MA 02142	[Sį	pecial Handling		Billing Number
Phone:	(617) 452 - 6257					
Fax:	(617) 452 - 8257	·				ML0012
Project:	Personal Air Monitoring Samples					
		Sample # #	T			· · · · · · · · · · · · · · · · · · ·

Sample ID	Location	Sample Date	# Fibers	# Fields	Volume (L)	Fibers/mm² = E	Fibers/CC = C	Overloaded
IR-00039	Personal Air Monitoring Sample	6/25/00	_	0	417.			/
IR-00041	Blank	6/25/00	0	100	0			
IR-00042	Personal Air Monitoring Sample	6/25/00	79	100	393			
IR-00044	Blank	6/25/00	0	160	0			

C Checks	12-00012	Scope	
Analyst	The A	Computer	

Phone: (856)-858-4800

Fax: (856)-858-1292



NVLAP#200481-0

Client:

CDM Federal Programs, Corp.

EMSL Project ID: ML0013

One Cambridge Place 50 Hampshire Street

Date Received: 27-Jun-00

Cambridge, MA 02142

Date Analyzed: 07-Jul-00

Client Project ID: Personal Air Monitoring Sample

Report Date: 07-Jul-00

Page: 1

Summary of Analytical Results

Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH 7402

Client	Asbestos	Asbestos	Non Asbestos	Total	Ashestos	Original (PCM)	7402 Adjusted**
Sample ID	Fibers	Type(s)	Fibers	Fibers	% of Total	Conc. (f/cc)	Concentration (f/cc)
IR-00039	N/A	N/A	N/A	N/A	N/A	N/A	Over Loaded
IR-00042	58.0	Tremo/Actino	14.0	72.0	81	0.099	0.080

Average Number of Asbestos Fibers on Field Blanks =

N/A

Average Number of Non-Asbestos Fibers on Field Blanks =

N/A

This method requires 2 field blank analyses per set. If none are submitted then the values reported are not blank corrected.

This method reports only fibers greater than or equal to 5 microns in length and 0.25 microns in width.

In the absence of PCM data the information is based on the TEM analysis only.

Method Detection Limit- 1 confirmed asbestos fiber above 95% of expected mean blank value

**Actual reported concentrations do not incorporate the analytical sensitivity of the PCM analysis. In some cases, the 7402 adjusted results may be reported "<LOD" below the analytical sensitivity of PCM (Limit of Detection)

Approved Signatory

EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Analysis performed by NIOSH 7402 Issue 2 August 15, 1994

TEM make: Joel 100cxii Detector: PGT

EMSL7402rpt6.00

Lab ID: 8117 Billing Number Logged: 27-Jun-00 Client: CDM Federal Programs, Corp. TAT: 1 Day ML0013 Address: One Cambridge Place Sample ID: IR-00039 50 Hampshire St. Results Due Location: Personal Air Monitoring Sample Cambridge, MA 02142 Tuesday, June 27, 2000 Project: Personal Air Monitoring Sample 9:00 AM Voltage (kv): 100 Special Handling Instructions Vol (liters): 417 Filter Size 25 mm Blanks Lorenteel are MCE Filter Type: GO Analyzed: M 3,4 8 N 3,4 Filter Pore Size: NSD = No Structures Detected m3 = Liters/1000 **ED OBSERVATION ED OBSERVATION** G.O. G.O. EDAX G.O. G.O. Non Non EDAX No. Type I.D. Nο I.D. Asbestos Asbestos Lenath Thick Asbestos Asbestos Length Thick Type **TOTALS** TOTALS Total Fibers (T) Total Asbestos (N) Total Non-Asbestos Asbestos Fibers Present Nonasbestos Fibers Present Calculations Filter Size: 25 mm EFA: 385 mm² Grid Opening Area: 0.013 mm² Chrysotile (1) Gypsum Anthophyllite (2) Glass Amosite Crocidolite Actinolite (3) Cellulose Tremolite (4) Organic Fibers Picture (5) Fibers Containing Grid Box# Inless ! Row Column 12 Spectrum yes A No SAED Filter Accepted for Analysis: If no, reason for rejection: Picture Types Scope Teal Cxt1 Date 7/8/00 Analyst ____ ______ Data Entry ______ Date _____

QC Check _____

Lab ID: 8117 Billing Number Logged: 27-Jun-00 TAT: 1 Day Client: CDM Federal Programs, Corp. ML0013 Address: One Cambridge Place Sample ID: IR-00039 50 Hampshire St. Results Due Location: Personal Air Monitoring Sample Cambridge, MA 02142 Tuesday, June 27, 2000 Project: Personal Air Monitoring Sample 9:00 AM Voltage (kv): 100 Special Handling Instructions Vol (liters): 417 Filter Size: 25 mm MCE Filter Type: GO Analyzed: Filter Pore Size: m3 = Liters/1000 NSD = No Structures Detected **ED OBSERVATION ED OBSERVATION** G.O. G.O. G.O. EDAX G.O. **EDAX** Non Non No. I.D. Type No. I.D. Type Asbestos Length Thick Asbestos Asbestos Asbestos Length Thick **TOTALS TOTALS** Total Non-Asbestos Total Fibers (T) Total Asbestos (N) Asbestos Fibers Present Nonasbestos Fibers Present Calculations EFA: 385 mm² Filter Size: 25 mm Grid Opening Area: 0.013 mm2 Chrysotile (1) Gypsum Anthophyllite 4 Amosite Crocidolite (2) Glass Actinolite Tremolite (3) Cellulose (4) Organic Fibers Picture (5) Fibers Containing 12001 Spectrum Grid Box# __ SAED Filter Accepted for Analysis: Yes XNo Picture Types If no, reason for rejection. Scope ブェ(Cメリ 718100 Date _ Analyst _

Data Entry _____ Date _

QC Check .

Lab ID: 8118 Billing Number Logged: 27-Jun-00 TAT: 1 Day Client: CDM Federal Programs, Corp. ML0013 Address: One Cambridge Place Sample ID: IR-00042 50 Hampshire St. Results Due Location: Personal Air Monitoring Sample Cambridge, MA 02142 Tuesday, June 27, 2000 Project: Personal Air Monitoring Sample 9:00 AM Vottage (kv): 100 Special Handling Instructions Vol (liters): 393 Filter Size: 25 mm Filter Type: MCE I PC GO Analyzed: Filter Pore Size: NSD = No Structures Detected m3 = Liters/1000 **ED OBSERVATION ED OBSERVATION EDAX** G.O. G.O. FDAX G.O. G.O. Non Non No. I.D. Type No. LD. Asbestos Asbestos Type Asbestos Asbestos Length Thick Length Thick G15 G-7 Ĵ .75 1 verylative 18.5 .50 Tiero lAtin C7 X p 075 ,25 -15 7.7 141 - 13 ,70 ,24 C13 50 C-13 .. 25 4,0 28 C-13 2 .45 GII7.6 C 3 وميحاي - 26 -3 5-11 1.2 m .90 **~3** -11 -21 ں سے۔ & M **~**3 Sti 126 C 9 **†/**[5-14 Tieno/Attre 4 (~2 -70 50 í÷ TrendAding シフ F14 15 。ヱァ Trendstation 6.0 -22 - 1 ,28 F-14 -50 - > F-12 ن چھ i) 2.8 يستع. 21 TrenelAtina 4-10 **TOTALS TOTALS** 15 **Total Non-Asbestos** Total Fibers (T) Total Asbestos (N) 104 Asbestos Fibers Present Nonasbestos Fibers Present Calculations Filter Size: 25 mm EFA: 385 mm² Grid Opening Area: 0.013 mm² Chrysotile Anthophyllite (1) Gypsum Amosite (2) Glass Crocidolite Actinolite Tremolite (3) Cellulose (4) Organic Fibers Picture (5) Fibers Containing Spectrum Column 12 Grid Box # __ SAED Filter Accepted for Analysis: Yes Picture Types If no, reason for rejection: 718100 Scope Tee (KI)

Date

Date

Data Entry ____

Analyst _

QC Check _

Clie		M Federal P	rograms, Co	огр.		Bill	ling Nu ML001					ed: 27-Ji AT: 1 Da		
Addre Proje	50 F Can	e Cambridge Hampshire S nbridge, MA sonal Air Mo	t.	ple		nple ID: II			onitoring	s Sample		Results i day, June 9:00 A	e 27, 200	o
Filter : Filter		25 mm MCE e:	☐ PC		Vol	ge (kv): 1 (liters): 3	93				Special I	landling	instructi	ions
					D = No Stri	uctures De	tected		m³ = L	iters/1000				
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	F8-		TIM	4.7	.80	14			14-12		TLA	8.0	۵Z7	96 n
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	F-8-	·	TIX	20.2	,27	1+			12		T/A	7.8	,27	14
,,	5-5-		TIA	7.0	, 27	1 t	,	٢-	1/2		TM	12.3	1.5	بها مخسر
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	F-6		TA	8.2	.50	-3 m	.		K-8	11 ++	TIA	2. ?	, Z.E.	15
	F6		TIX	11.0	,80	d M		>	K-8		T/K	5.1	, 50	9 m
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	F-4	<i>i</i>	T/X	14.0	1.5	d m		~~~~~	14-6		TIA	8.0	,22	ーチ
	F-4	-	TH	3.y	5-5	8 00 m			K-C		TIA	21.0	. 50	1 F
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L		ers Present		N	onasbest	os Fibers	Present	С	alculation	ons Filter S	ize: 25 mm	`` _	EFA: 385	mm²
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Analyst QC Ch		- 1 0			cope			ate . ate .	710					

Lab ID: 8118 Billing Number Logged: 27-Jun-00 Client: CDM Federal Programs, Corp. ML0013 TAT: 1 Day Address: One Cambridge Place Sample ID: IR-00042 50 Hampshire St. Results Due Location: Personal Air Monitoring Sample Cambridge, MA 02142 Tuesday, June 27, 2000 Project: Personal Air Monitoring Sample 9:00 AM Voftage (kv): 100 Special Handling Instructions Vol (liters): 393 Fifter Size: 25 mm Filter Type: MCE GO Analyzed: Fifter Pore Size: m3 = Liters/1000 NSD = No Structures Detected **ED OBSERVATION ED OBSERVATION** EDAX G.O. G.O. Non G.O. G.O. Non **EDAX** No. I.D. Type I.D. Asbestos Type Asbestos Length Thick Asbestos Asbestos Length Thick 75 .25 K-6 T/A TLX ,24 K-6 18 K-4 TIA .70 14-4 T/A 4.7 Ť . 30 TA 12.6 11-14 N-14 33,0 1:2 20 **TOTALS TOTALS** Total Asbestos (N) Total Fibers (T) **Total Non-Asbestos** Asbestos Fibers Present Nonasbestos Fibers Present Calculations EFA: 385 mm² Filter Size: 25 mm Chrysotile Anthophyllite (1) Gypsum Grid Opening Area: 0.013 mm² ήX Amosite Crocidolite (2) Glass Actinolite Tremolite (3) Cellulose (4) Organic Fibers Picture (5) Fibers Containing Grid Box# / "COCI Spectrum Column 42 SAED Yes Filter Accepted for Analysis: Picture Types If no, reason for rejection: Date 7/8/00 TCO/CXII Analyst _____ Date _ 10 Check ___ Data Entry

Billing Number

ML0013

Logged: 27-Jun-00

TAT: 1 Day

Lab ID: 8118

Client: CDM Federal Programs, Corp.

Address: One Cambridge Place Sample ID: IR-00042 50 Hampshire St. Results Due Location: Personal Air Monitoring Sample Cambridge, MA 02142 Tuesday, June 27, 2000 Project: Personal Air Monitoring Sample 9:00 AM Voltage (kv): 100 Special Handling Instructions Vol (liters): 393 Filter Size: 25 mm Filter Type: MCE I PC GO Analyzed: Filter Pore Size: NSD = No Structures Detected m3 = Liters/1000 **ED OBSERVATION** ED OBSERVATION EDAX G.O. G.O. G.O. G.O. EDAX Non Non No. Type I.D. Asbestos Thick No. I.D. Type Asbestos Length Asbestos Asbestos Thick Length 2 17-15 PM 10 T/XTIA 17-5 60 114 12-15 TIX TIA 12-3 Ì 23.0 10 126 TH F M TLS 2.5 0-15 ,27 D-3 8,3 .25 1.2 K-14 i/ATIA M 12-13 5.0 12.1 114 K-14 7/R 3.1 25 . 45 ین بیت نے ユエ 2-13 7.8 K-14 T/X 12.2 0-11 50 17 111 25 OF 1-12 10.1 25 TIL 11 211 7.0 B .20 P- (i 3.0 1/8 4-12 -20 17-5 Œ 1,2 .18 .47 T/A 1.5 k-10 K-8 £26 0-5 23.5 10 11.0 T/\$ 30 V.F T/A 12.2 4-8 .27 حجت 4.5 3.5 p-5 T/3 , 2, 5 .20 Ŧ . 25 .93 TIA 17.1 24 TYA .15 E In 1.2 K-6 T/X 70 Ď~フ 11+11 ,50 I/A 3.5 1/1 14-41 12.4 12-5 11 11+ .48 TIR T/A 0-5 K-4 72.5 17.7 16 TOTALS 13 16 TOTALS Total Asbestos (N) **Total Non-Asbestos** Total Fibers (T) Asbestos Fibers Present Nonasbestos Fibers Present Calculations EFA: 385 mm² Fifter Size: 25 mm _ Chrysotile Grid Opening Area: 0:013 mm² Anthophyllite (1) Gypsum 1 Amosite Crocidolite (2) Glass (3) Cellulose Actinolite Tremolite (4) Organic Fibers Picture (5) Fibers Containing Grid Box# 15 COCT Spectrum Row Column Yes SAED Filter Accepted for Analysis: If no, reason for rejection: Picture Types Scope TENCE Date 7/8/00 Analyst _____ ______ Data Entry ______ Date ___ QC Check _____

	D: 811	18 M Federal P	roarame Co	nen		Bill	ling Nu					jed: 27-Ju AT: 1 Day		
		e Cambridge		<i>σ</i> ι ρ.	0		ML00				17	KI. I Daj	y 	
		Hampshire S				nple ID: II ocation: F			onitorina	Sample		Results I	<u>Due</u>	
		nbridge, MA	•								Tueso	day, June	27, 200	0
Proje	ct: Pei	rsonal Air Mo	nitoring Sam	ple								9:00 A	M	
						ge (kv): 1					Special I	landling	Ineternti	one l
Filter S	ize:	25 mm	_		Vol	(liters): 3	193				<u>Special I</u>	<u> </u>	III DU LICU	0//5
Filter T		MCE	PC		GO An	alyzed: _								
Filter	ore Siz	e:		NSIA.) = No Stri	ictures De	tected		m ³ = 1 i	ters/1000				
		l I	D OBSERV		3 - 100 Ot/L		leoteo		T		D OBSERV	ATION		
G.O. No.	G,O. I.D.	Non Asbestos	Asbestos	Length	Thick	EDAX Type		G.O. No.	G.O.	Non Asbestos	Asbestos	Length	Thick	EDAX Type
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	tinolite	 	emolite			llulose								
Pi	cture				(4) Or	ganic Fib	ers							
	ectrum			[(5) Fib	ers Cont	aining	G	rid Box i	# Inzec	e/	ow N	Column	12
☐ s/	ÆD									epted for Ana		Yes [No	,
Pic	cture Ty	pes				·····				on for rejection	on:			
Inalyst		141		Sc	ope		[Date .	7/8/	illetin				

Chain of Custody Record

U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 500 Denver, CO 80202-2413

ML0013 (7402)

Send to: EMSL

(On Site Laboritory)

Field Sample ID 1R-00039	Sample Type Personal Air Monitoring Sample	Sample Date 6/25/00	Volume (L) 417.0	Turn Around Time 24 Hour	Analysis Request PCM 7400 followed by
1R-00041	Blank	6/25/00	NA	24 Hour	TEM 7402 PCM 7400 followed by
1R-00042	Personal Air Monitoring Sample	6/25/00	393,0	24 Hour	TEM 7402 PCM 7400 followed by
1R-00044	Blank	6/25/00	NA	24 Hour	TEM 7402 PCM 7400 followed by TEM 7402

Samples 1R-00040 and 1R-00043 are duplicates collected for Grace. Therefore, they are not being submitted with this submittal.

END OF SUBMITTAL

Relinquished by (Signature and Company):

Date/Time

Received by (Signature and Company):

EMSC 6/27/00 0500

Sample Condition upon Receipt:

Relinquished by (Signature and Company):

Date/Time

Received by (Signature and Company):

Sample Condition upon Receipt:

1 Cooper Street Westmont, NJ 08108

Phone: (609) 858-4800

Fax: (609) 858-9551



Attn.: Tim Wall

CDM Federal Programs, Corp.

One Cambridge Place 50 Hampshire St. Cambridge, MA 02142 Monday, June 26, 2000

Ref Number:

ML008

Analysis Date: 6/26/00

PHASE CONTRAST MICROSCOPY (PCM) FIBER COUNT BY NIOSH METHOD 7400, ISSUE 2, 4TH EDITION, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	fibers/ mm²	LOD fib/cc	fibers/cc
1-01650	Ambient Air Sample	6/26/00 ·	1200.00	6.0	100	7.64	0.002	0.003
1-01652	Ambient Air Sample	6/26/00	1200.00	7.5	100	9.55	0.002	0.003
1-01654	Blank .	6/26/00	0.00	<5.5	100	<7.0		
1-01655	Blank	6/26/00	0.00	<5.5	100	<7.0		

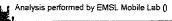
BLANK ID: 1-01654, 1-01655

Adrian Arav

Analyst

Approved Signatory

Disclaimers: LOD = Limit of Detection. This method assumes the limit of detection is 7 fibers/mm². The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL.



Chain of Custody Record

U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 500 Denver, CO 80202-2413

ML008 (7400)

Send to: EMSL

(On Site Laboritory)

Field Sample ID 1-01650	Sample Type Aimbient Air Sample	Sample Date 6/26/00	Volume (L) 1200.0	Turn Around Time 24 Hours	Analysis Request PCM 7400 followed by
1-01652	Aimbient Air Sample	6/26/00	1200.0	24 Hours	TEM 7402 PCM 7400 followed by
1-()1654	Blank	6/26/00	NA	24 Hours	TEM 7402 PCM 7400 followed by
1-01655	Blank	6/26/00	NA	24 Hours	TEM 7402 PCM 7400 followed by TEM 7402

Samples 1-01651 and 1-01653 were duplicates collected for Grace. Therefore, they are not included with this submittal.

END OF SUBMITTAL

Relinquished by (Signature and Company):

Date/Time

Received by (Signature and Company):

EMEC 09:50 6/26/00

Sample Condition upon Receipt:

18 8 Ents

6/26/00 0750

Received by (Signature and Company):

Sample Condition upon Receipt:

Relinquished by (Signature and Company):

Date/Time

PCM Fiber Count - NIOSH Method 7400, Issue 2, 4th Edition, 8/15/94

Client:	CDM Federal Programs, Corp.	Logged:	6/26/00		TAT:	1 Day
Address:	One Cambridge Place 50 Hampshire St.	Date/Time Due:	6/26/00	9:00 AM		
	Cambridge, MA 02142	` }	S	pecial Handling		Billing Number
Phone:	(617) 452 - 6257					
Fax:	(617) 452 - 8257					ML008
Project:						

Sample ID	Location	Sample Date	# Fibers	# Fields	Volume (L)	Fibers/mm² = E	Fibers/CC = C	Overloaded
1-01650	Ambient Air Sample	6/26/00	6.0	100	1200			
1-01652	Ambient Air Sample	6/26/00	7.5	100	1200			
1-01654	Blank	6/26/00	0.0	100	0			
1-01655	Biank	6/26/00	0.0	100	0			

QC Checks		Scope	
Analyst	Adus Hor	Computer	
	· · · · · · · · · · · · · · · · · · ·		

Phone: (856)-858-4800

Fax: (856)-858-1292



NVLAP#200481-0

Client:

CDM Federal Programs, Corp.

One Cambridge Place 50 Hampshire Street

Cambridge, MA 02142

Client Project ID: Ambient Air Sample

EMSL Project ID: ML009

Date Received: 26-Jun-00

Date Analyzed: 26-Jun-00

Report Date: 27-Jun-00

Page: 1

Summary of Analytical Results

Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH 7402

Client	Asbestos	Asbestos	Non Asbestos	Total	Asbestos	Original (PCM)	7402 Adjusted**
Sample ID	Fibers	Type(s)	Fibers	Fibers	% of Total	Conc. (f/cc)	Concentration (f/cc)
1-01650	ND	N/A	6.0	6.0	0	0.003	<lod< td=""></lod<>
1-01652	2.0	Tremo/Actino	6.0	2.0	25	0.003	<lod< td=""></lod<>

Average Number of Asbestos Fibers on Field Blanks =

N/A

Average Number of Non-Asbestos Fibers on Field Blanks =

N/A

This method requires 2 field blank analyses per set. If none are submitted then the values reported are not blank corrected. This method reports only fibers greater than or equal to 5 microns in length and 0.25 microns in width.

In the absence of PCM data the information is based on the TEM analysis only.

Method Detection Limit-1 confirmed asbestos fiber above 95% of expected mean blank value

Actual reported concentrations do not incorporate the analytical sensitivity of the PCM analysis. In some cases, the 7402 adjusted results may be reported "<LOD**" below the analytical sensitivity of PCM (Limit of Detection)

Approved Signatory

6/28/00

EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel.

Analysis performed by NIOSH 7402 Issue 2 August 15, 1994

TEM make: Joel 100cxll Detector: PGT

EMSL7402rpt6.00

Chain of Custody Record

U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 500 Denver, CO 80202-2413

ML009 (7402)

Send to: EMSL

(On Site Laboritory)

Field Sample ID 1-01650	Sample Type Aimbient Air Sample	Sample Date 6/26/00	Volume (L) 1200.0	Turn Around Time 24 Hours	Analysis Request PCM 7400 followed by
1-01652	Aimbient Air Sample	6/26/00	1200.0	24 Hours	TEM 7402 PCM 7400 followed by
1-01654	Blank	6/26/00	NA	24 Hours	TEM 7402 PCM 7400 followed by
1-01655	Blank	6/26/00	NA	24 Hours	TEM 7402 PCM 7400 followed by TEM 7402

Samples 1-01651 and 1-01653 were duplicates collected for Grace. Therefore, they are not included with this submittal.

END OF SUBMITTAL

Relinquished by (Signature and Company):

Date/Time

Received by (Signature and Company):

Sample Condition upon Receipt:

Bomb

6/26/00 0150

Am Am EMSC 05:50 C/26/oc Received by (Signature and Company):

Sample Condition upon Receipt:

Relinquished by (Signature and Company):

Date/Time

Lab ID: 8084 Billing Number Logged: 26-Jun-00 TAT: 1 Day Client: CDM Federal Programs, Corp. ML009 Address: One Cambridge Place Sample ID: 1-01650 50 Hampshire St. Results Due Location: Ambient Air Sample Cambridge, MA 02142 Monday, June 26, 2000 Project: 9:00 AM Voltage (kv): 100 Special Handling Instructions Vol (liters): 1200 Filter Size: 25 mm Filter Type: MCE GO Analyzed: 40 Filter Pore Size: NSD = No Structures Detected m3 = Liters/1000 **ED OBSERVATION ED OBSERVATION** EDAX G.O. G.O. G.O. G.O. Non **EDAX** Non I.D. Type No. I.D. No. Asbestos Type Length Thick Asbestos Asbestos Asbestos Length Thick 1-5 N51 M-12 NSI NSD 110 + + N NSO NSD NSD NSD NSD NSD 150 NS D 11-9 NSD C-2 ハSO N51) **TOTALS** 150 **TOTALS Total Non-Asbestos** Total Asbestos (N) Total Fibers (T) NSO Asbestos Fibers Present Nonasbestos Fibers Present Calculations Filter Size: 25 mm EFA: 385 mm² Grid Opening Area: 0.013 mm2 Chrysotile (1) Gypsum Anthophyllite Amosite (2) Glass Crocidolite Actinolite Tremolite (3) Cellulose (4) Organic Fibers Picture (5) Fibers Containing MLOOI Spectrum Grid Box# . SAED Filter Accepted for Analysis: If no, reason for rejection: Picture Types Date 6/26/-9 Archive Box 1 Scope Jeal CKII Analyst . Date _ QC Check __ Data Entry

Lab ID: 8084 Client: CDM Federal Programs, Corp.					Billing Number ML009					Logged: 26-Jun-00 TAT: 1 Day				
Address: One Cambridge Place 50 Hampshire St.					nple ID: 1						Results l	Due		
	Car	mbridge, MA	02142		Lo	cation: A	Ambient	Air Sar	nple					,
Proje	ct:										Monday, June 26, 2000 9:00 AM			
					Volta	ge (kv): 1	00							
Filter S	Size:	25 mm			Vol (liters): 1200					Special I	landling	Instructi	<u>ons</u>	
Filter T	уре:	MCE	PC		GO An	alyzed: _	40							
Filter F	ore Siz	e:		NOT) = No Stru				m3 1 i	ters/1000				
-	T	1	ED OBSERV) = NO SITE	ictures De	lected		1117-11		ED OBSERV	ATION	····	[
G.O. No.	G.O. I.D.	Non Asbestos	Asbestos	Length	Ţhick	EDAX Type		G.O. No.	G.O. I.D.	Non Asbestos	Asbestos	Length	Thick	EDAX Type
	N-15	NSD							E-13	11				
	N 13								E-13	l			***************************************	
	N-11								E-11	NSO				
	N-5	NSD				·			E-9	NSD				
	N-7	!							ε^{-2}	+				
	ルづ								E-5	7				
	N-3	NSO				,			E-3	NSP				
	N-1	NSO							E-1	H50				
	L-8	N50							B-12	N50				
	4-6	NSD							B-10	NSP				
			·							,				
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							. [

тот	ALS	2	NSO					TOT	ALS	5	NSP			
l		stos (N)			Total Non-Asbestos				То	tal Fibers	(T)	· .		
Chrysotile Anthophyllite Amosite Crocidolite			No.	Nonasbestos Fibers Present (1) Gypsum (2) Glass			C	Calculations Filter Size: 25 mm EFA: 385 mm² Grid Opening Area: 0.013 mm²				mm²		
Actinolite Tremolite						llulose	oro				•			
Picture				(4) Organic Fibers (5) Fibers Containing										
Spectrum				[] (o) i mera contratting				Grid Box # MUCCI Row E Column / 2				42		
Picture Types					1				cepted for Analysis: Yes No					
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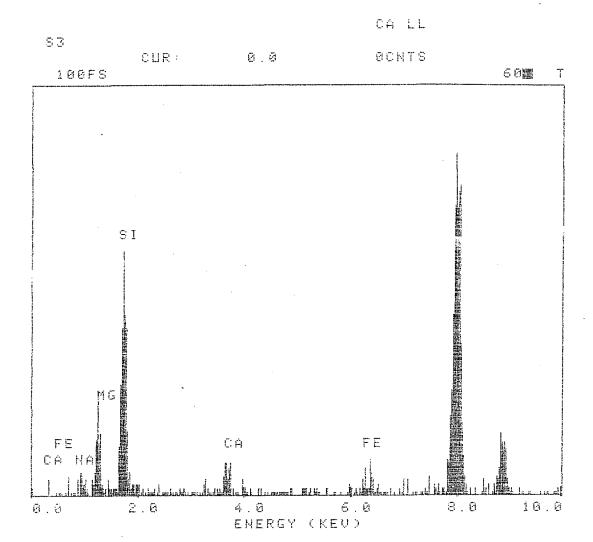
Lab ID: 8085 Billing Number Logged: 26-Jun-00 Client: CDM Federal Programs, Corp. TAT: 1 Day ML009 Address: One Cambridge Place Sample ID: 1-01652 50 Hampshire St. Results Due Location: Ambient Air Sample Cambridge, MA 02142 Monday, June 26, 2000 Project: 9:00 AM Voltage (kv): 100 Special Handling Instructions Vol (liters): 1200 Filter Size: 25 mm Filter Type: MCE GO Analvzed: Filter Pore Size: m3 = Liters/1000 NSD = No Structures Detected **ED OBSERVATION ED OBSERVATION** G.O. EDAX G.O. G.O. G.O. Non **EDAX** Non I.D. Type No. I.D. No. Asbestos Asbestos Length Thick Asbestos Asbestos Type Length Thick G 5 L-15 L- 13 iIC- 17 NSD NSD NSD 611 Ŧ Tremyactive .48 16.2 NSD NSO NSD NSD NSD N50 NSD NSD NSD 050 **TOTALS TOTALS Total Non-Asbestos** Total Asbestos (N) Total Fibers (T) Asbestos Fibers Present Nonasbestos Fibers Present Calculations Filter Size: 25 mm EFA: 385 mm² Grid Opening Area: 0:013 mm2 Chrysotile Anthophyllite (1) Gypsum X (2) Glass Amosite Crocidolite (3) Cellulose Actinolite Tremolite (4) Organic Fibers Picture ∫ (5) Fibers Containing MLOGI Column <u>3.4</u> Spectrum Grid Box#. Row SAED Filter Accepted for Analysis: Yes If no, reason for rejection: Picture Types Archire Box 1 A-3 Date 6/2(100) Scope Jeel XII Analyst _ Data Entry _____ Date

QC Check _

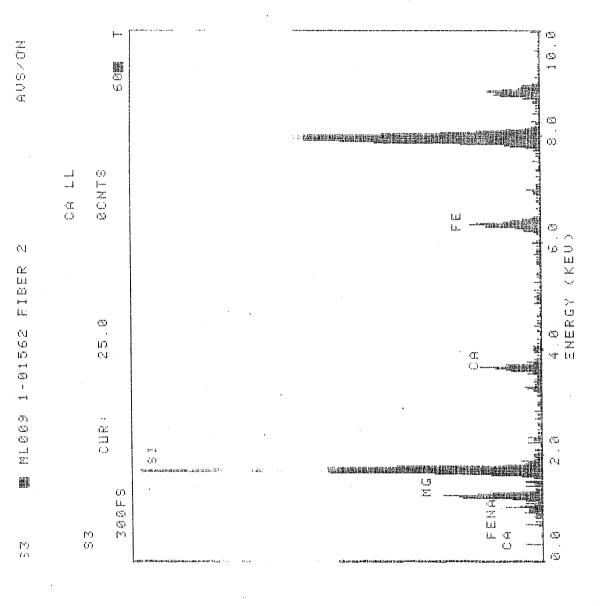
Lab ID: 8085 Billing Number Logged: 26-Jun-00 Client: CDM Federal Programs, Corp. TAT: 1 Day ML009 Address: One Cambridge Place Sample ID: 1-01652 50 Hampshire St. Results Due Location: Ambient Air Sample Cambridge, MA 02142 Monday, June 26, 2000 Project: 9:00 AM Voltage (kv): 100 Special Handling Instructions Vol (liters): 1200 25 mm Filter Size: Filter Type: MCE PC GO Analyzed: Filter Pore Size: NSD = No Structures Detected m3 = Liters/1000 **ED OBSERVATION ED OBSERVATION** EDAX G.O. G.O. G.O. G.O. **EDAX** Non Non No. I.D. Asbestos Thick Type No. I.D. Asbestos Length Type Asbestos Length Asbestos Thick 0-15 NSD NSD NSD P-13 NSD Dals NSO 0-5 NSD NSD 0-7 NSD 0-5 10.25 25°G Treno latines M p 3 N50 Ť NSD N5D N50 N50 1/50 N50 NSO **TOTALS TOTALS** Total Fibers (T) Total Asbestos (N) **Total Non-Asbestos** Asbestos Fibers Present Nonasbestos Fibers Present Calculations Filter Size: 25 mm EFA: 385 mm² Grid Opening Area: 0:013 mm² Chrysotile Anthophyllite (1) Gypsum .ti] (2) Glass Amosite Crocidolite (3) Cellulose Actinolite Tremolite (4) Organic Fibers Picture (5) Fibers Containing M1001 는 Column 국가 Spectrum Grid Box # _ Row Yes SAED Filter Accepted for Analysis: If no, reason for rejection: Picture Types 6/26/00 Date Analyst _ QC Check Date _ Data Entry _

33 **E** ML009 1-01652 FIBER 1

AUSZON



6/26/10 Adm A



6/26/0 Ah.A.

107 Haddon Ave., Westmont, NJ 08108

Phone: (609) 858-4800 Fax: (609) 858-4960 Email: ssiegel@EMSL.com

Attn:

Fax:

CAMP DRESSER & MCKEE

ONE CAMBRIDGE CENTER

50 HAMPSHIRE ST. . CAMBRIDGE, MA 02142

617-452-8257

Project: ML0012

Phone: 617-452-6257

Customer ID:

DRES51

Customer PO:

Received:

07/21/00 11:12 AM

EMSL Order:

040012187

EMSL Project ID:

Analysis Date: 7/24/2000

Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH Method 7402

Sample	Volume (Liters)	Non Asbestos Fibers	PCM F/cc	Asbestos Type(s)	Asbestos Fibers	Asbestos % of total	7402 Adjusted (TEM) F/cc	Notes
IR - 00039 040012187-0001	417	2	n/a	Actinolite	1	33	<0.006	Reported using TEM data only

NIOSH 7402 method only reports fibers >= 5µm in length and >= 0.25µm in width. This method requires 2 field blank analyses per set. Since no blanks were analyzed, the results are not blank corrected.

Average number of asbestos fibers on field blanks: n/a

Average number of non-asbestos fibers on field blanks: n/a

Ron Mah	oney
Analyst	

Stephen Siegel, CIH or other approved signatory

EMSt. is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc.

Analysis performed by EMSt. Westmont (NY ELAP #10872, AIHA #100192)